

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
10 November 2005 (10.11.2005)

PCT

(10) International Publication Number  
**WO 2005/104673 A2**

(51) International Patent Classification: **Not classified**

(21) International Application Number:  
**PCT/US2004/010147**

(22) International Filing Date: **1 April 2004 (01.04.2004)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(71) Applicant (for all designated States except US): **ICG ADDCAR SYSTEMS, LLC [US/US]**; 1414 Addington Circle, Ashland, KY 41102 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CARR, Ian, T.** [US/US]; 1632 Elliott Avenue, Ashland, KY 41101 (US). **BAIRD, John, A., Jr.** [US/US]; 1406 Taylor Street, Flatwoods, KY 41139 (US).

(74) Agents: **SCHICKLI, Warren, D.** et al.; King & Schickli, PLLC, 247 North Broadway, Lexington, KY 40507 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.**

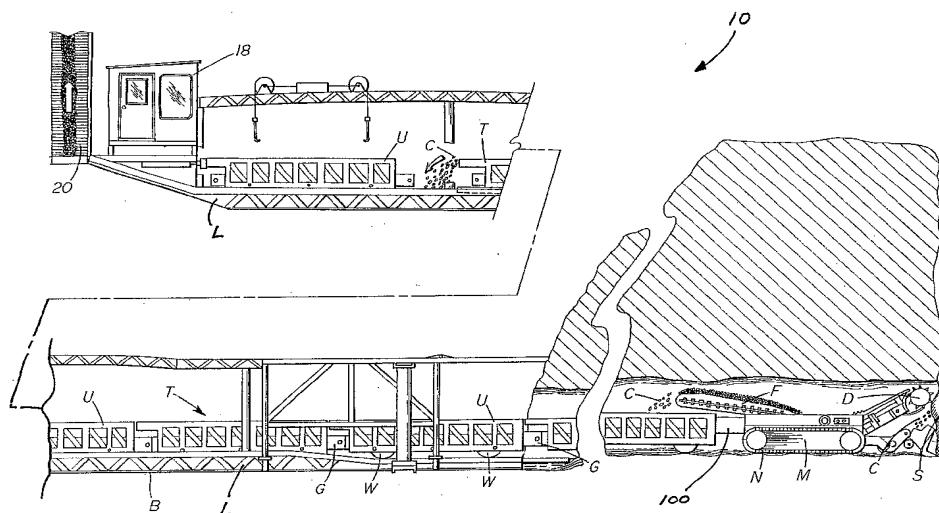
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): **ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).**

**Published:**

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MINING APPARATUS WITH PRECISION NAVIGATION SYSTEM



**WO 2005/104673 A2**

(57) **Abstract:** A mining apparatus includes a miner, a conveyor unit and a steering unit connecting the miner and conveyor unit. The apparatus also includes a heading sensor and a controller responsive to the heading sensor. A first actuator is carried on the miner, the control unit or the steering unit. The first actuator is positioned to a first side of a midline of the miner. Further a second actuator is carried on one of the miner, the conveyor unit and the steering unit. The second actuator is positioned to a second opposite side of the midline of the miner. The first and second actuators are utilized to adjust a connection angle between the miner and the conveyor unit either side of parallel in order to maintain the miner on the desired directional heading.